I. AMENDMENTS

Amendments to the Specification

Please amend the Specification as follows:

Please REPLACE the paragraph beginning at page 1, line 20 to page 2 line 5, with the following paragraph:

The OSC signals are optical signals used for detection of troubles in transmission lines as well as condition monitoring and setting for administration, e.g., condition monitoring and setting control of optical amplifiers. Therefore, normally, in the WDM systems, only the main signals are amplified by optical amplifiers (e.g., erbium-doped-fiber amplifiers, which are hereinafter referred to as EDFAs) for transmission, and the OSC signals are transmitted without being amplified through the optical amplifiers. In addition, since the OSC signals are used as control signals, the transmission levels of the OSC signals are set at low levels so as not to interfere with the main signals.

Please REPLACE the paragraph beginning at page 7, line 8, with the following paragraph:

In order to accomplish the above object, an optical transmission system for performing WDM optical transmission is provided. The optical transmission system ~~comprises~~ includes an optical transmission device and an optical reception device. The optical transmission device includes: an optical-supervisory-signal generation unit which generates a first optical supervisory signal being arranged on a shorter-wavelength side of main signals and containing information for use in determination of continuity of an optical transmission line and a second optical supervisory signal arranged on a longer-wavelength side of the main signals and used for supervisory control of optical communication; and an optical multiplexing unit which generates a wavelength-multiplexed signal by optically multiplexing the main signals and the first and second optical supervisory signals, and transmits the wavelength-multiplexed signal onto the optical transmission line. In addition, the optical reception device includes: an optical demultiplexing unit which receives the wavelength-multiplexed signal, and optically demultiplexes the wavelength-multiplexed signal into the main signals, the first optical supervisory signal, and the second optical supervisory signal; and an optical-supervisory-signal reception unit which determines whether or not the optical transmission line is optically

continuous, based on the first optical supervisory signal, and performs supervisory control of optical communication based on the second optical supervisory signal.

Please REPLACE the paragraph beginning at page 8, line 9, with the following paragraph:

The above and other objects, features and advantages of the present invention will become apparent from the following description when taken in conjunction with the accompanying drawings which illustrate preferred embodiments of the present invention by way of example.

Please REPLACE the paragraph beginning at page 9, line 16, with the following paragraph:

FIG. 1 is a diagram illustrating the principle of an optical transmission system according to the present invention. The optical transmission system 1 according to the present invention is a system for performing WDM optical transmission, and ~~comprises~~ includes an optical transmission device 10 and an optical reception device 20. Although only a construction for optical transmission in a downstream direction is illustrated in FIG. 1, it is preferable that the optical transmission device 10 also has the functions of the optical reception device 20 and vice versa.

Please REPLACE the paragraph beginning at page 9, line 27 to page 10, line 19, with the following paragraph:

The optical transmission device 10 ~~comprises~~ includes an optical-supervisory-signal generation unit 11 (hereinafter referred to as an OSC generation unit) and an optical multiplexing unit 12. The OSC generation unit 11 generates a first optical supervisory signal (hereinafter referred to as a first OSC signal d1) containing transmission-line continuity information (information for use in determination of continuity of the optical transmission line F) and a second optical supervisory signal (hereinafter referred to as a second OSC signal d2) used for supervisory control of optical communication. A wavelength on the shorter-wavelength side of main signals dm is allocated to the first OSC signal d1, and a wavelength on the longer-wavelength side of the main signals dm is allocated to the second OSC signal d2. The optical

multiplexing unit 12 generates a wavelength-multiplexed signal W by optically multiplexing the main signals dm and the first and second OSC signals d1 and d2, and transmits the wavelength-multiplexed signal W onto the optical transmission line F.

Please REPLACE the paragraph beginning at page 10, line 20 to page 11, line 4, with the following paragraph:

The optical reception device 20 ~~comprises~~ includes an optical-supervisory-signal reception unit 21 (hereinafter referred to as an OSC reception unit) and an optical demultiplexing unit 22. The optical demultiplexing unit 22 receives the wavelength-multiplexed signal W, and optically demultiplexes the wavelength-multiplexed signal W into the main signals dm, the first OSC signal d1, and the second OSC signal d2. The OSC reception unit 21 determines whether or not the optical transmission line F is optically continuous, based on the first OSC signal d1, and performs supervisory control of optical communication based on the second OSC signal d2.

Please REPLACE the paragraph beginning at page 11, line 5, with the following paragraph:

Next, wavelength allocation to the first and second OSC signals d1 and d2 is explained below. FIG. 2 is a diagram indicating relationships between the wavelengths of the optically multiplexed optical signals. Each of the main signals dm having wavelengths $\lambda 1$ to λn, the first OSC signal d1, and the second OSC signal d2 ~~is comprised of~~ includes a component of amplified spontaneous emission (ASE) and an optical signal component. The component of amplified spontaneous emission is a noise component produced by spontaneous emission.

Please REPLACE the paragraph beginning at page 18, line 27 to page 19, line 11, with the following paragraph:

FIG. 4 is a diagram illustrating a first example of the construction of the optical transmission system according to the present invention. The optical transmission system 1 of FIG. 4 ~~comprises~~ includes an optical transmission device 10 and an optical reception device 20. The optical transmission device 10 ~~comprises~~ includes an OSC generation unit 11, an optical multiplexing unit 12, optical transmitter units (OS) 13-1 to 13-n, a multiplexer (MUX) 14, and an

optical amplifier 15. The OSC generation unit 11 contains electro-optic conversion (E/O) units 11-1 and 11-2, and the optical multiplexing unit 12 contains WDM couplers 12a and 12b.

Please REPLACE the paragraph beginning at page 19, line 12, with the following paragraph:

The optical reception device 20 ~~comprises~~ includes an OSC reception unit 21, an optical demultiplexing unit 22, an excitation light source 23, a coupler C1, an optical amplifier 24, a demultiplexer (DMUX) 25, and optical receiver units (OR) 26-1 to 26-n. The OSC reception unit 21 contains opto-electric conversion (O/E) units 21-1 and 21-2, and the optical demultiplexing unit 22 contains WDM couplers 22a and 22b.

Please REPLACE the paragraph beginning at page 21, line 13, with the following paragraph:

The WDM coupler 22b optically demultiplexes the signals which are passed by the WDM coupler 22a to the WDM coupler 22b, into the OSC signals d1 and d2, and passes the first OSC signal d1 to the O/E unit 21-1 and the second OSC signal d2 to the O/E unit 21-2. The ~~E/O~~ O/E unit ~~11-1~~ 21-1 converts the first OSC signal d1 into the first electric signal, and performs processing for extracting the clock component from the first electric signal. The O/E unit 21-2 converts the second OSC signal d2 into a second electric signal, and performs processing for controlling the administration and supervision of the system based on the second electric signal.

Please REPLACE the paragraph beginning at page 21, line 25 to page 22, line 9, with the following paragraph:

Next, another construction of the optical transmission system is explained below. FIG. 5 is a diagram illustrating a second example of the construction of the optical transmission system according to the present invention. The optical transmission system 1a of FIG. 5 ~~comprises~~ includes an optical transmission device 10 and an optical reception device 20a. Since the optical transmission system 1a of FIG. 5 is different from the optical transmission system 1 of FIG. 4 in only the optical reception device 20a, the construction and operations of only the optical reception device 20a are explained below.

Please REPLACE the paragraph beginning at page 22, line 10, with the following paragraph:

The optical reception device 20a ~~comprises~~ includes an OSC reception (O/E) unit 21a, an excitation light source 23, a coupler C1, an optical amplifier 24, a demultiplexer (DMUX) 25, optical receiver units (OR) 26-1 to 26-n, and an eliminate band pass filter (E-BPF) 27. The E-BPF 27 in the construction of FIG. 5 is provided instead of the optical demultiplexing unit 22 in the construction of FIG. 4.